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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/901,317	07/09/2001	Alexandros Biliris	2000-0280-CON	9040

7590
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10/04/2007

EXAMINER

JEAN GILLES, JUDE

ART UNIT	PAPER NUMBER
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2143

MAIL DATE	DELIVERY MODE
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10/04/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

09/901,317

Applicant(s)

BILIRIS ET AL.

Examiner

Jude J. Jean-Gilles

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08/17/2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3, 4, 6-18, 20, 22, and 24-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 3, 4, 6-18, 20, 22, and 24-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07/09/2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input checked="" type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This Action is in regards to the Reply received on 08/17/2007, and to the Interview conducted on 09/07/2007.

Response to Amendments/Arguments

2. The Examiner thanks Applicant representative for the Interview accorded on 09/07/2007, during which, Mr. Thomas Isaacson presented his arguments to the Office in order to expedite prosecution of the application. Claim 24 has been amended. Claims 3, 4, 6-18, 20, 22, and 24-28 remain pending in the application with claims 1, 2, 5, 19, 21, and 23 Have been cancelled herein. Claims 3, 4, 6-18, 20, 22, and 24-28 represent a method and apparatus for an "METHOD AND APPARATUS FOR CONTENT DISTRIBUTION NETWORK BROKERING AND PEERING."

Applicant's arguments with respect to claims 3, 22, 24, and 25 have been carefully considered, but are not deemed fully persuasive. Applicant's arguments are deemed moot in view of the existing ground of rejection as explained here below. Applicants' amendments to the independent claim 24 are not properly made and as to perhaps place the claim in condition for allowance.

The dependent claims stand rejected as articulated in the First Office Action and all objections not addressed in Applicant's response are herein reiterated.

In response to Applicant's arguments, 37 CFR § 1.11(c) requires applicant to "clearly point out the patentable novelty which he or she thinks the claims present in

view of the state of the art disclosed by the references cited or the objections made. He or she must show the amendments avoid such references or objections."

Applicant's Request for Reconsideration filed on 08/17/2007 has been carefully considered but is not deemed fully persuasive. However, because there exists the likelihood of future presentation of this argument, the Examiner thinks that it is prudent to address Applicants' main points of contention:

A: First, let us discuss the arguments presented during the interview dated 09/07/2007. In this interview Applicant' representative Mr. Thomas M. Isaacson presented the argument that in Narendran, col. 2. lines 46-53, replicated servers are discouraged. The mechanism described in this section is not recommended because of the the need to keep the caches of the content servers consistent. In contrast, Applicant argues that Joffe, in col. 1, lines 28-33, lines 67, continue in col. 2, lines 47, 58, 59, and col. 3, lines 44-53 where replicated servers are required. The use of identical content servers at strategic locations is recommended.

B: Applicant contends that, on page 3 of the previous Office action the thrust of Applicant's main argument that, by a preponderance of evidence, on skill in the art would not have sufficient motivation or suggestion to combine the references. This is primary because of expressed teaching away from the combination of the references. The Examiner never addresses fully our argument and certainly does not provide any explicit findings regarding a response to why our arguments are insufficient by a preponderance of the evidence.

As to point A, it is the position of the Examiner that the combination of Narendran, and Joffe in detail teaches the limitations of the above mentioned claims. However, in view of Applicant's remarks in the interview dated 09/07/2007, the Office respectfully concludes that the applicant mischaracterizes the teachings of Narendran and that the argument above is moot. The Applicant has presented an alleged contradiction in the teachings of Joffe and Narendran. After meeting with Supervisor David Wiley, the Office concludes that the Applicant has mischaracterized the teachings of Narendran, and that the argument presented above is moot. The section of Joffe presented in the arguments are valid and in accordance with the teachings of the prior of record. However, the Office found that the section of Narendran presented in the argument above is at the least weak, and at most is not inclusive in the teachings of Narendran, This section is an excerpt from the Background section of the prior art of record. In which, Narendran points the problems that exist with the prior art, while presenting his patent as a solution to the underlined problems (please, review the entire section of Narendran, col. 2, lines 29-53). Narendran specifically talks about "A number of other server-side techniques that are based on caching.....and that these techniques are generally referred to as server side caching or In the Summary of the invention col. 2, starting at lines 55, Narendran specifies "The invention provides improved server-side techniques for processing client requests received over the Internet and other communication networks, without the problems associated with the above-described conventional approaches...". Clearly Narendran teaches away from the

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Applicant's assertion. The rejection under **35 USC § 103** over Joffe and Narendran is maintained.

Point B is simply a reiteration of point A. See point A above as to why there is no teaching away of the prior art of record, and see rejection of claim 3 below as to why there is motivation to combine.

Examiner notes that no new matter has been added and that the new claims are supported by the application as filed. However, applicant has failed in presenting claims and drawings that delineate the contours of this invention as compared to the cited prior art. Applicant has failed to clearly point out patentable novelty in view of the state of the art disclosed by the references cited that would overcome the 103(a) rejections applied against the claims, the rejection is therefore sustained.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 3, 4, 6-18, 20, 22, and 24-28 remain pending are rejected under 35 U.S.C. 103(a) as being unpatentable over Joffe et al (Joffe) U.S. patent No. 6,518,619, in view of Narendran et al (Narendran) U.S. 6,070,191.

Regarding claim 3: Joffe teaches the invention substantially as claimed. Joffe teaches a method of serving content in a packet-switched network comprising:

choosing from a plurality of content distribution networks which content distribution network will respond to a content request from a client (*column 10, lines 48-67; column 11, lines 24-42*);

redirecting the client to the chosen content distribution network so that the content request will be served by the chosen content distribution network (*column 11, lines 24-42; column 13, lines 31-46*), wherein

"one of the plurality of content distribution networks is chosen only if a measured load of the one of the plurality of content distribution networks does not exceed a predetermined capacity reserved on the one of the plurality of content distribution networks". The Examiner in the previous Office action acknowledged that Joffe does

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not disclose the details of the claim and that the patent of Applicants contend that Joffe does disclose the details of this step and that Grove et al (Grove) U.S. 6,820,133 B1 further teaches the limitation. In the reply dated 08/18/2006, applicants submit that Grove does not disclose "...a content distribution networks that does not exceed a predetermined capacity reserved on the one of the plurality of content distribution networks".

In the same field of Endeavor, Narendran teaches "...Thus, the documents are distributed such that the load on each server is proportional to its capacity in terms of the maximum number of HTTP connections that it can support simultaneously..."[see Narendran; column 5, lines 30-46] and further discloses "...Unlike the previous two examples, in this case the solution is able to achieve only "approximate" load balance. The flow from server S.sub.3 to the sink, which specifies the load on S.sub.3, is 0.61, which is 0.14 less than its capacity. This load has been diverted to S.sub.1 as extra load as shown on the redundant arc between S.sub.1 and the sink. Thus, the load on S.sub.1 is now 0.34..." ..."[see Narendran; column 14, lines 20-48].

Accordingly, it would have been obvious to one of ordinary skill in the networking art at the time the invention was made to have incorporated Narendra's teachings of choosing a Content Distribution only if a measured load of the one of the plurality of content distribution networks does not exceed a predetermined capacity reserved with the teachings of Joffe. This combination will provide the ability of a content distribution network "to assign requests for data objects made by clients among multiple network

servers" (see Joffe, Summary) using the pre-computed redirection probabilities and the load distribution algorithm of Narendran, thereby ensuring that the load is properly balances across N document servers (see Narendran, Summary). By this rationale, claim 3 is rejected.

Regarding claim 4: the combination Joffe-Narendra teaches the method of claim 3 wherein the content distribution network is chosen based, at least partly, determination of which of the plurality of the content distribution networks is close to the client (see Narendra, column 2, lines 40-53).

Regarding claim 6: the combination Joffe-Narendra teaches the method of claim 3, wherein the content to be served by the chosen content distribution network comprises content embedded in a document to be served to the client, and wherein redirecting the client to the chosen content distribution network further comprises rewriting references to the embedded content before serving the document to the client [see Joffe, column 13, lines 1-46].

Regarding claim 7: The combination Joffe-Narendra teaches the method of claim 6 wherein the reference to the embedded content is rewritten to point to a server in the chosen content distribution network [see Joffe, column 13, lines 1-46].

Regarding claim 8: The combination Joffe-Narendra teaches the method of claim 6 wherein the reference to the embedded content is rewritten to point to a domain name served by the content distribution network [see Joffe, column 10, lines 47-65].

Regarding claim 9: The combination Joffe-Narendra teaches teach the method of claim 6 wherein the reference to the embedded content is rewritten so that an original

reference may be readily parsed from a corresponding one of the rewritten reference (see *Joffe*; column 2, lines 13-35).

Regarding claim 10: The combination Joffe-Narendra teaches the method of claim 9 wherein the chosen content distribution network utilizes the corresponding one of the rewritten references to obtain the embedded content if the chosen content distribution network does not have an up-to-date copy of the embedded content in a cache (see *Narendra*; column 4, lines 16-40).

Regarding claim 11: The combination Joffe-Narendra teaches the method of claim 3 wherein the step of redirecting the client to the chosen content distribution network further comprises resolving domain name system queries resolve to content served by the chosen content distribution network [see *Joffe*, column 10, lines 47-65].

Regarding claim 12 The combination Joffe-Narendra teaches the method of claim 11 further comprising answering the domain name system queries are answered with a network address of content served by the chosen content distribution network (see *Joffe*; column 2, lines 13-35).

Regarding claim 13: The combination Joffe-Narendra teaches the method of claim 11 comprising answering the domain name system queries with a network address of a domain name system server responsible for the chosen content distribution network [see *Joffe*, column 10, lines 47-65].

Regarding claim 14: The combination Joffe-Narendra teaches the method of claim 11 comprising answering the domain name system queries are answered with a

domain name of content served by the chosen content distribution network (see Narendra; *column 4, lines 1-15*).

Regarding claim 15: The combination Joffe-Narendra teaches the method of claim 11 comprising forwarding the domain name system queries to a domain name server responsible for the chosen content distribution network and which directly answers the domain name system queries (see Narendra; *column 4, lines 1-15*).

Regarding claim 16: The combination Joffe-Narendra teaches the method of claim 3 wherein the content distribution network serves the content request from a local cache and wherein the content distribution network has access to a second copy of the content if there is a cache miss (see Narendra; *column 4, lines 17-40*).

Regarding claim 17: The combination Joffe-Narendra teaches the content distribution method of claim 16 wherein the content distribution network includes a table of associations between references to content served by the content distribution network and references to a second copy of the content served from elsewhere in the network [see Joffe, *column 13, lines 1-46*].

Regarding claim 18: The combination Joffe-Narendra teaches the method of claim 16 wherein the content distribution network can transform references to content served by the content distribution network into second references to a second copy of the content served from elsewhere in the network ((see Narendra; *column 4, lines 16-40*).

Regarding claim 20: The combination Joffe-Narendra teaches the brokering domain name server of claim 22 wherein the predetermined policy reflects a chosen

content distribution network and redirection mechanism for each of a plurality of regions of client network addresses (see Narendra; *fig. 3*).

Regarding claim 22: The combination Joffe-Narendra teaches a brokering domain server comprising:

a domain name system engine which is capable of answering domain name system queries from a client [see *Joffe, column 10, lines 47-65*]; and

a policy module which directs the domain name system engine to answer the domain name system queries in accordance with a predetermined policy which resolves a domain name to a-server in a content distribution network chosen from a plurality of content distribution networks [see Narendra; *fig. 3; column 5, lines 30-46; column 14, lines 20-48; column 1, lines 14-67*] wherein:

the policy module further comprises an interface to information received from the plurality of content distribution networks and wherein the policy module modifies the predetermined policy in response to the information [see Narendra; *fig. 3; column 5, lines 30-46; column 14, lines 20-48; column 1, lines 14-67*]

the information further comprises load information and wherein the predetermined policy reflects capacity reserved on each of the plurality of content distribution networks (see *Joffe; column 5, lines 45-59*).

Regarding claim 24: The combination Joffe-Narendra teaches a method of redirecting content requests between content distribution networks (*column 5, lines 38-44*), comprising :

receiving a request for a document which contains one or more embedded content references [see *Joffe*, column 13, lines 1-46];

retrieving the document[see *Joffe*, column 13, lines 1-46];

choosing one of a plurality of content distribution networks to serve the embedded content, the one of the plurality of content distribution networks being chosen only if a measured load of the one of the plurality of content distribution networks does not exceed a predetermined capacity reserved on the one of the plurality of content distribution networks [see *Narendra*; *fig. 3*; column 5, lines 30-46; column 14, lines 20-48];

rewriting the document so that the embedded content references point to content stored at the chosen content distribution network [see *Narendra*; *fig. 3*; column 5, lines 30-46; column 14, lines 20-48; column 3, lines 1-23] and

transmitting the rewritten document (see *Joffe*; column 3, lines 22-25).

Regarding claim 25: The combination *Joffe-Narendra* teaches a system comprising:

means for choosing a content distribution network from a plurality of content distribution networks for responding to a content request from a clients[see *Joffe*, column 13, lines 1-46]; and

means for redirecting the client to the chosen content distribution network so that the content request will be served by the chosen content distribution network (see *Joffe*; column 13, lines 31-46),
wherein

the means for choosing a content distribution network from a plurality of content distribution networks for responding to a content request from a client is configured to choose a content distribution network only if a measured load of the content distribution network does not exceed a predetermined capacity reserved on the content distribution network [see Narendra; *fig. 3*; column 5, lines 30-46; column 14, lines 20-48; column 3, lines 1-23]

Regarding claim 26: The combination Joffe-Narendra teaches the system of claim 25. wherein:

the content to be served by the chosen distribution network comprises content embedded in a document to be served to the clients [see *Joffe*, column 13, lines 1-46]; and

the means for redirecting the client to the chosen content distribution network so that the content request will be served by the chosen content distribution network (see *Joffe*; column 13, lines 31-46), further comprises:

means for rewriting references to the embedded content before serving the document to the client see Narendra; *fig. 3*; column 5, lines 30-46; column 14, lines 20-48; column 3, lines 1-23].

Regarding claim 27: The combination Joffe-Narendra teaches the system of claim 25, further comprising:

means for serving content from a local cache (see *Grove*; column 24, lines 37-67; see *Grove*, column 3, lines 9-22; column 12, lines 32-49); and

means for serving content from a second copy of the content when the means for serving content from a local cache experiences a cache miss see Narendra; *fig. 3*; column 5, lines 30-46; column 14, lines 20-48; column 3, lines 1-23].

Regarding claim 28: The combination Joffe-Narendra teaches the system of claim 27, further comprising:

means for transforming references to content served by the content distribution network into second references to the second copy of the content served from elsewhere in the network see Narendra; *fig. 3*; column 5, lines 30-46; column 14, lines 20-48; column 3, lines 1-23]

Conclusion

5. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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Any inquiry concerning this communication or earlier communications from examiner should be directed to Jude Jean-Gilles whose telephone number is (571) 272-3914. The examiner can normally be reached on Monday-Thursday and every other Friday from 8:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wiley, can be reached on (571) 272-3923. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-9000.

Jude Jean-Gilles

Patent Examiner

Art Unit 2143

JJG


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September 25, 2007